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United States Department of Agriculture,

BUREAU OF SOILS.

ASSIGNMENT OF FIELD PARTIES.

SOIL SURVEY.

JAY A. BONSTEEL, *In Charge*; GEORGE N. COFFEY, *In Charge of Soil Classification and Correlation*; GEORGE W. BAUMANN, *In Charge of Maps and Field Records*.

The following assignments of field parties are made under the general letters of authorization (No. 36, July 1, 1905, and No. 987, December 14, 1905) issued to the Chief of the Bureau of Soils by the Secretary of Agriculture, and constitute a proper authorization to perform the travel and incur the expenses necessary to carry out such assignments:

On or about February 10, W. J. Geib will proceed from Washington, D. C., to Opelika, Ala., to assist W. E. Hearn in the survey of Lee County.

Upon the arrival of Mr. Geib to relieve him, H. J. Wilder will proceed from Opelika, Ala., to Shreveport, La., for the purpose of assisting J. L. Burgess in the survey of Caddo Parish.

On or about February 10, C. F. Shaw will proceed from Washington, D. C., to Shreveport, La., to assist in the survey of Caddo Parish.

On or about February 14, R. A. Winston will proceed from Washington, D. C., to Pontotoc, Miss., for the purpose of assisting Frank Bennett in the survey of Pontotoc County, relieving E. P. Carr, resigned.

On or about February 7, Harry Rich will proceed from Appomattox, Va., to Palestine, Tex., to assist the party under W. M. Hinson in the tobacco work at Palestine.

On or about February 15, the headquarters of Otto Olson will be transferred from Palestine, Tex., to Nacogdoches, Tex., and the headquarters of Harry Rich from Palestine, Tex., to Hallettsville, Tex., for the purpose of enabling them to supervise the planting and growing of tobacco at these stations. These employees will remain under the general charge of W. M. Hinson, who will be held responsible for the operations at these two stations. The necessary traveling expenses in making these transfers and subsistence for one day after reaching the points named will be reimbursed in the usual way through Mr. Hinson.

On or about March 1, Jay A. Bonsteel will proceed from Washington, D. C., to Waycross, Ga.; thence to the Lee County area, Alabama; the Mobile area, Alabama; the Montgomery County area, Mississippi; the Pontotoc County area, Mississippi; the Escambia County area, Florida; and any other areas which are being surveyed at that time east of the Mississippi River, for the purpose of studying the soil types of the Coastal Plain region and of comparing them with soil types mapped in the North Atlantic Coastal Plain. He will pay particular attention to the correlation of the Norfolk series and the possible correlation of some of the heavy clays of Alabama and Mississippi with the Susquehanna series as it has been encountered in Maryland and adjoining States. In addition to visiting the areas which are being surveyed, he will, if necessary, visit other areas already surveyed in the above States for the purpose of comparing the classification and correlation of the South Atlantic and the Gulf Coastal Plains soils. Upon the completion of this work he will return to headquarters.

On or about March 15, J. E. Lapham will proceed from Washington, D. C., to areas surveyed in Virginia, Alabama, Tennessee, and Kentucky, for the purpose of studying the characteristics of the limestone soils of those regions and of comparing their correlations, particularly the Hagerstown, Fort Payne, and Clarksville series. Especial attention will be paid to these correlations at points where two or more of the three series occur within the same area. Upon the completion of this work he will return to headquarters.

On or about April 1, George N. Coffey will proceed from Washington, D. C., to the Prairie County area, Arkansas; thence to the Tishomingo area, Indian Territory; the Oklahoma County area, Oklahoma; the Rusk County area, Texas; the Lee County area, Texas; and the San Marcos area, Texas; and such other areas in the above States as may be necessary, for the purpose of studying the correlation of the soils in Louisiana with those in Arkansas; the correlation of the Orangeburg, Norfolk, Lufkin, and Houston series in Texas; the correlation of the Vernon and Miller series in Oklahoma and Indian Territory; and of investigating a new region of residual granitic soils encountered in the Tishomingo area. Upon the completion of this work he will return to headquarters.

On or about February 19, F. K. Cameron will proceed from Washington, D. C., to Ithaca, N. Y., for the purpose of inspecting the work being done at that point under the direction of the Bureau. He is then directed to proceed to Geneva, N. Y., for consultation with the director and chemists of the experiment station at that point regarding the use of methods for soil investigations devised by this Bureau. Upon the completion of this assignment he will return to headquarters at Washington.

On or about February 26, Oswald Schreiner will proceed from Washington, D. C., to Ames, Iowa, and from thence to Columbia, Mo., for the purpose of inspecting the work being done by the Bureau at these two stations. Immediately upon the completion of this assignment he will return to headquarters at Washington.

The necessary traveling and other expenses incurred in consequence of these assignments will be reimbursed upon the presentation of accounts, properly executed and supported by correct vouchers, in accordance with the Fiscal Regulations of the Department. All travel performed under these assignments must be via the most direct and quickest routes available.

Status of field work.

Work in all the areas has been somewhat delayed by rain and cold weather, but good progress was made during the last week in January and the first week in February.

Approximate areas to be surveyed in the winter season of 1905-6 and the proportion completed to date.

State.	Area.	Square miles.	Per cent completed, Feb. 3.	Party.
Alabama	Lee County	3 680	15	Hearn-Geib.
Arkansas	Prairie County	1 658	20	Carter-Meeker.
Florida	Escambia County	2 680	35	Griffen-Kolbe-Drake-Belden.
Georgia	Waycross area	2 500	33	Carr, M. E.-Tharp.
Indian Territory	Tishomingo area	3 440	50	Rice-Ayrs.
Louisiana	Caddo Parish	4 825	21	Burgess-Hurst-Wilder-Shaw.
Mississippi	Montgomery County	2 400	31	Caine-Schroeder.
Do	Pontotoc County	2 530	51	Bennett, F.-Winston.
North Carolina	New Hanover County	2 199	100	
Oklahoma	Oklahoma County	3 720	34	McLendon-Jones.
Texas	San Marcos area	3 500	42	Mangum-Lyman.
Do	Rusk County	2 915	17	Ely-Kocher.

¹ Print of county map will be furnished.

² Plane table survey.

³ Topographic sheet.

⁴ Plane table to be used if reliable map can not be obtained.

Miscellaneous.

C. F. Shaw, H. C. Smith, and R. A. Winston have been appointed assistants in the Soil Survey.

The resignation of E. P. Carr, tendered for the purpose of accepting a commercial position, has been accepted, to take effect February 10, 1906. R. A. Winston has been sent to Pontotoc, Miss., to take Mr. Carr's place in the survey of Pontotoc County.

Jay A. Bonsteel visited Chestertown, Md., on January 17, to deliver an address before the Peninsular Horticultural Society on the purposes of the Soil Survey. On his way to Chestertown, he stopped at Dover, Del., and made an address to the students in agriculture of Delaware College on the same subject.

J. A. Drake, in charge of the field work in Escambia County, Fla., is reported to have the smallpox. On account of the exposure of other members of the party, it is probable that the progress of the work in this area will be interfered with temporarily.

Classification and correlation.

The names of all soil types encountered in the areas now being surveyed are given here for the information of the different field parties. These names are provisional, but, except where questioned, the correlations are thought to be correct.

From the Waycross, Ga., area M. E. Carr reports Norfolk sand, Norfolk fine sand, Norfolk sandy loam, Norfolk fine sandy loam, Portsmouth fine sandy loam, Portsmouth fine sand, Meadow, and Swamp.

From Escambia County, Fla., A. M. Griffen reports Norfolk sand, Norfolk fine sandy loam, Norfolk sandy loam, Orangeburg fine sandy loam, Orangeburg sand, Portsmouth sand, Galveston sand, and Sandhill.

From Lee County, Ala., W. E. Hearn reports Cecil stony clay, Cecil stony loam, Cecil sandy loam, Norfolk gravelly loam, Norfolk sand, and Norfolk sandy loam.

From Pontotoc County, Miss., F. Bennett reports Pontotoc loam, Pontotoc sandy loam, and Pontotoc silt loam. The first two probably belong in the Orangeburg series, while the last one may belong in the Lufkin series. The Lufkin series is characterized by gray surface soils and heavy, impervious, plastic gray and mottled subsoils. The difference in the texture of the surface soil and the subsoil is usually very marked, especially in the sandy loam members. The tree growth is principally scrub oak. These soils are generally of low agricultural value.

From Montgomery County, Miss., T. A. Caine reports Memphis silt loam, Winona silt loam, and Meadow. The Winona silt loam will probably be correlated with Lintonia loam.

From Caddo Parish, La., J. L. Burgess reports Orangeburg sand, Orangeburg fine sandy loam, Norfolk sand, Lake Charles fine sandy loam, Miller clay, and Miller silt loam. The Miller series includes the brown and red alluvial soils formed from the reworking of the Permian Red Beds.

From Rusk County, Tex., C. W. Ely reports Susquehanna (?) clay, Susquehanna (?) fine sandy loam, Orangeburg fine sand, Orangeburg fine sandy loam, Orangeburg clay, Norfolk fine sand, Norfolk fine sandy loam, Lufkin fine sand, and Henderson silt loam. The Henderson silt loam usually consists of 4 to 8 inches, and rarely exceeds 16 inches, of a dark-gray or brown silt loam, underlain by a yellow silty or sandy clay which grades into a heavy yellow clay, sometimes mottled with streaks of red and gray in lower depths. It is found in low, poorly drained areas in the uplands, usually so situated as to receive considerable wash from the surrounding soil types. This soil may be the Norfolk clay (formerly Selma clay), but it seems more probable that it belongs in the Lufkin series.

From the San Marcos, Tex., area A. W. Mangum reports Houston clay, Houston black clay, Houston gravelly clay, Houston (?) gravel, Colton (Crawford?) stony clay, Lufkin (?) fine sandy loam, and a bottom-land soil which he has provisionally called Blanco loam. He describes the Blanco loam as a drab to gray loam containing a considerable amount of fine sand, grading at 10 inches into a loam of slightly heavier texture.

From Prairie County, Ark., W. T. Carter, jr., reports Wattensas silt loam, Wattensas clay loam, Calhoun clay, Susquehanna (?) clay, and Hazen silt loam. It has not been possible definitely to correlate any of these soils, although it is believed that they are related to some of the soils of southern Louisiana.

From Oklahoma County, Okla., W. E. McLendon reports Vernon sand, Vernon fine sand, Vernon sandy loam, Vernon fine sandy loam, Vernon loam, Vernon clay, Miller fine sandy loam, Miller loam, Miller (?) clay, and Yazoo (?) clay. The Vernon series is now confined to the upland soils derived from the Permian Red Beds. The alluvial soils mapped under this name will be included in the Miller series.

From the Tishomingo, Ind. T., area T. D. Rice reports Tishomingo (Cecil?) gravelly loam, Lynn clay loam, Lynn clay, Teller clay, and Teller loam. The Lynn clay loam is probably the Houston loam; the Lynn clay, the Houston black clay; the Teller clay, the Yazoo clay; and the Teller loam, the Miller loam, or fine sandy loam.

In order not to delay the regular mechanical analysis work, samples for preliminary analysis should be confined to cases in which there is doubt as to the proper classification and correlation.

The attention of the field men is again called to the fact that they are expected to make all possible soil correlations in the field, referring to the office only those cases in which doubt exists. Field men should be able to recognize promptly the well-established types and series, and only new types should be described under provisional names. As soon as a type is established, a description should be sent in upon Form 46, so that the office may have a ready reference of the types in each area.

Large samples for Soil Management investigation.

In place of the general request for samples called for in the latter part of October, a request has recently been sent for 100 specific samples from selected soil types to be collected by the assistants in charge of Soil Survey parties in the South.

In this instance it is desired that several large samples be collected from each important soil type in each area, with the view of ascertaining if the manurial requirements of the type are uniform. Composite samples should be secured in every instance, and while these composite samples should be representative of the type, they should be taken from fields situated in widely separated parts of the area, in order to represent the whole type in the area under consideration. The samples should be taken from fields which are not in a high state of cultivation, but which have been in cultivation for a long time and have deteriorated in productiveness. The soil men are also requested to collect these samples only from fields the past history of which can be secured, and to obtain all details possible concerning the crops which have been grown on these fields, the yields, the rotation followed, and the kind and quantity of fertilizers which have been applied.

Large sacks for the collection of these samples will be forwarded to assistants in charge of field parties at an early date. The samples when collected are to be shipped by freight to the Bureau of Soils, and are to be carefully tagged in such a manner that rough handling will not destroy the identity of the sample.

As soon as a shipment has been made, the bill of lading should be forwarded to the Chief Clerk of the Bureau, so that the samples may be properly looked after and identified upon their arrival in Washington.

Letters giving more detailed instructions for the collection of these samples are being sent to each party now in the field.

TOBACCO INVESTIGATIONS.

GEORGE T. MCNESS, *In Charge.*

The assignment of tobacco investigation parties is as follows: W. M. Hinson and H. Weinberg at Palestine, Tex.; Otto Olsen at Nacogdoches, Tex.; Harry Rich at Hallettsville, Tex.; L. W. Ayer and R. S. Epley at Marion, Ala.; and G. B. Massey at Germantown, Ohio, engaged in growing, curing, and fermenting Cuban-seed filler tobacco; E. H. Mathewson and W. W. Green at Appomattox, Va., engaged in growing and curing heavy export tobacco; and J. B. Stewart and G. Harris at Tariffville, Conn., engaged in growing, curing, and fermenting shade wrapper tobacco.

The Texas, Alabama, Ohio, and Connecticut parties continue their plant-breeding experiments in cooperation with the Bureau of Plant Industry.

On February 2, Mr. McNess started on an inspection trip to the southern stations. He will first visit Palestine, Tex., and other points in that State, to inspect the work and arrange for next season's operations. From Texas he will go to Marion and other points in Alabama, inspecting the work there and arranging for its continuation next season, and from Alabama he will go to Quincy, Fla., to inspect the Texas and Alabama tobacco shipped to that point for fermentation and packing. While in Alabama he will represent the Bureau at the meeting of the farmers' institute to be held at Selma on February 23 and 24.

DIVISION OF SOIL MANAGEMENT.

FRANK D. GARDNER, *In Charge.*

F. E. Bonsteel has resigned from the Bureau to accept an editorial position with a large publishing house of New York. A. T. Sweet has been transferred from the Alkali Land Reclamation Service to the Division of Soil Management to fill the position made vacant by the resignation of Mr. Bonsteel.

J. E. McClintock, G. B. Maynadier, J. W. Nelson, L. C. Holmes, H. J. C. Umberger, F. L. Zehring, and Henry Winckelmann are in Washington, D. C., investigating manurial requirements of soils by the wire-basket method, Mr. Winckelmann being assigned to special work on the Arlington farm.

J. C. Britton and J. J. Skinner are at Raleigh, N. C., investigating the manurial requirements of certain soils in cooperation with the North Carolina Experiment Station.

F. R. Reid and O. L. Eckman are at Ithaca, N. Y., cooperating with the Cornell Experiment Station in investigating the manurial requirements of certain New York soils.

A. H. Snyder and C. L. Cook are at Ames, Iowa, cooperating with the Iowa Experiment Station in investigating the manurial requirements of certain Iowa soils.

B. E. Brown and F. D. Stevens are at Columbia, Mo., cooperating with the Missouri Experiment Station in studying the manurial requirements of certain Missouri soils.

J. E. McClintock, H. O. Sampson, and H. J. C. Umberger have been appointed scientific assistants in this Division and will report for duty on or before February 15.

During the past month the examination of soils from a number of areas has been made and the manurial requirements determined by the wire-basket method. Recommendations based upon these examinations have been prepared and will be included in the Soil Survey reports of the respective areas.

DIVISION OF SOIL FERTILITY.

OSWALD SCHREINER, *In Charge.*

Dr. Oswald Schreiner, of the Soil Laboratory, has been placed in temporary charge of this Division.

C. A. Jensen, A. T. Strahorn, and C. J. Mann are at headquarters, engaged in laboratory work on general problems of soil fertility. F. R. Pember is at Ames, Iowa, and J. F. Breazeale at Ithaca, N. Y., investigating the cause of low yields of certain soils of those localities.

Prof. Samuel Fraser, recently appointed an expert in this Division, has now accepted the position of manager of the estate of Col. Austin Wadsworth in the Genesee Valley, New York.

J. F. Breazeale has an article entitled "Effect of Certain Solids on Wheat Seedlings" in the January, 1906, number of the Botanical Gazette.

ALKALI LAND RECLAMATION.

CLARENCE W. DORSEY, *In Charge.*

W. W. Mackie is in charge of the reclamation tract at Fresno, Cal.; J. F. Warner is in charge of the reclamation tract at Tempe, Ariz.; and Rudolph Boss is in charge of the reclamation tract at Salt Lake City, Utah.

W. W. Mackie reports that the newly installed drainage system on the Fresno tract is working perfectly.

A. T. Sweet has been transferred from the Alkali Land Reclamation Service to the Division of Soil Management.

ADMINISTRATION.

Notes.

Copies of Field Operations of the Bureau of Soils for 1904 will soon be available for distribution.

H. E. Patten has been appointed a soil expert and assigned to the Chemical Laboratory force.

C. F. Shaw, H. O. Sampson, H. C. Smith, H. J. C. Umberger, J. E. McClintock, and R. A. Winston have been appointed scientific assistants.

C. C. Fletcher, W. H. Waggaman, and M. L. Turner have been appointed laboratory helpers.

A. B. Depuy resigned from the position of mechanic about the middle of January to accept a place with a private firm in Philadelphia. A. Press has been appointed to fill the vacancy caused by Mr. Depuy's resignation.

O. B. Clevenger has been appointed a clerk-stenographer.

E. L. Zehring has tendered his resignation to take effect with the termination of February 28, 1906.

At the request of the Rhode Island Experiment Station, the Bureau has arranged to continue cooperative work with that station during next summer along the general lines followed last season. The specific purpose of this work is to determine if the increased yield of certain root crops, such as radishes, following treatment with sodium salts on some of the experimental plots which are deficient in potash, is due to a partial replacing of potassium in the physiological processes of plant growth, or whether the effect of either sodium or

potassium in increasing the yield is due to some action of these salts upon the soil; that is, to determine whether the influence is upon the plant directly, or whether these salts increase plant growth through some action upon the soil. Demonstration work will also be carried on to determine the manurial requirements of soils on certain selected plots in Rhode Island. Assignments of men for this work will be announced later.

MILTON WHITNEY,
Chief of Bureau.

WASHINGTON, D. C., *February 13, 1906.*

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